BURR RIDGE
PUBLIC WORKS

EMERALD ASH BORER
Management Alternatives & Impacts

March 11, 2013

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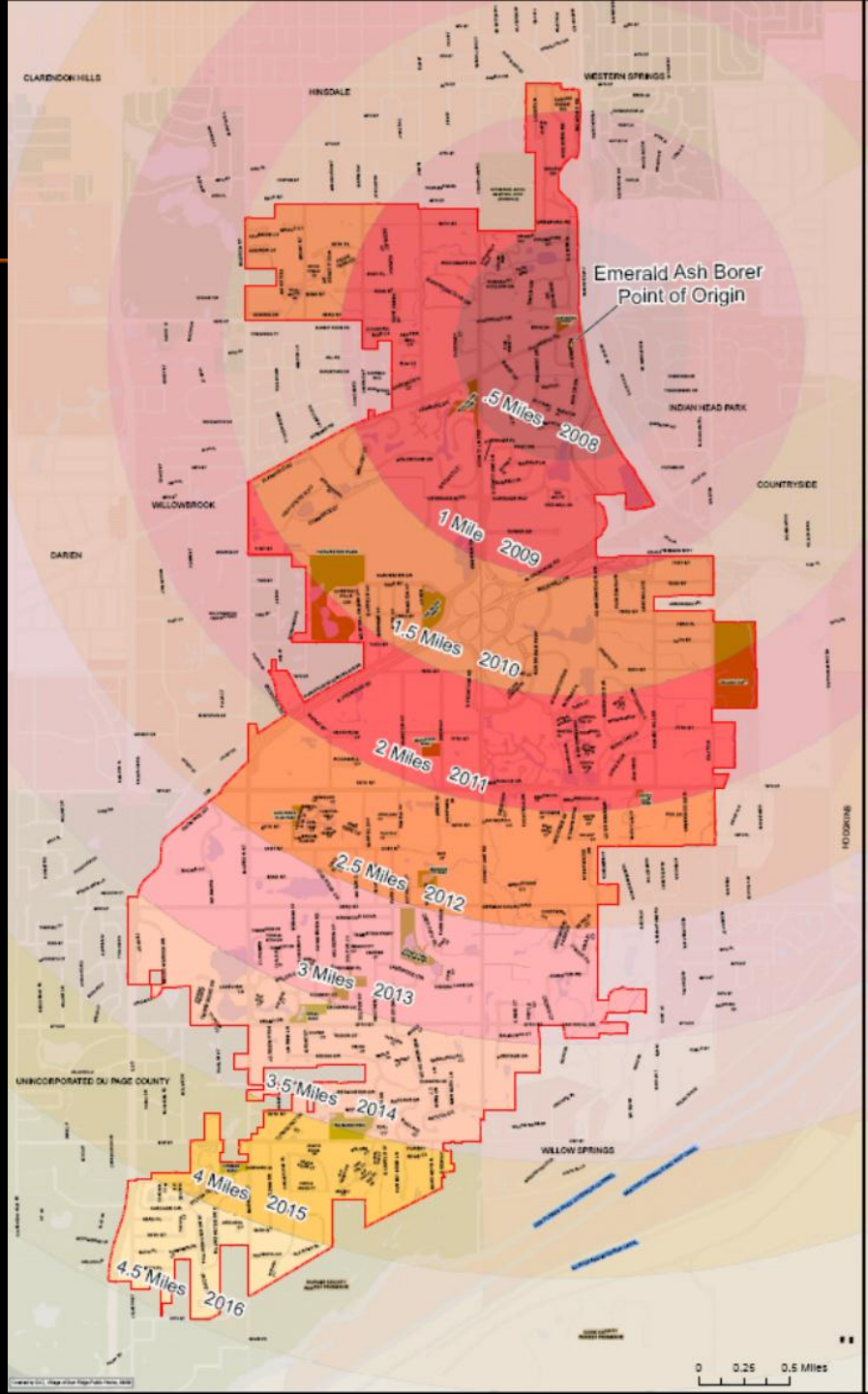
Director of Public Works/Village Engineer

Presentation Contents

- Summary of 2008-2012 Management Program
- Review of Inventory Findings
  - Composition by genus/species
  - Composition by size
  - Composition by condition
- Ash Population Analysis
  - Composition by size
  - Composition by condition
- Summary of Management Considerations
- **Presentation of Management Scenarios**
  - Removal Scenario
  - Treatment Scenario
  - Managed Decline Scenario

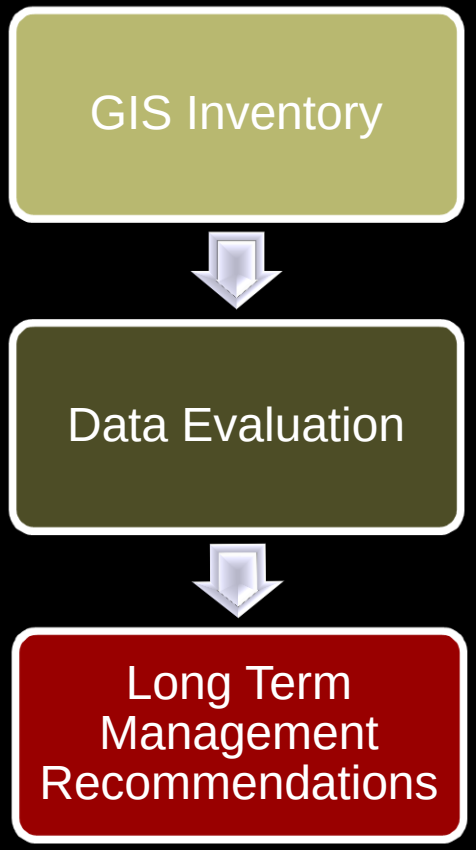
Management Program 2008-2012

- EAB was identified in a localized corner of Burr Ridge in 2008.
- The Village notified HOA's and residents of the infestation
  - Some residents and HOA's initiated treatment for private trees
- The Village initiated a treatment program with the intention of containing the infestation for as long as possible.
  - 2009: 1 mile radius, 507 trees
  - 2010: 1 ½ mile radius, 824 trees
  - 2011: 2 mile radius, 1,020 trees
- During this period, only 40 Ash trees were removed due to infestation.

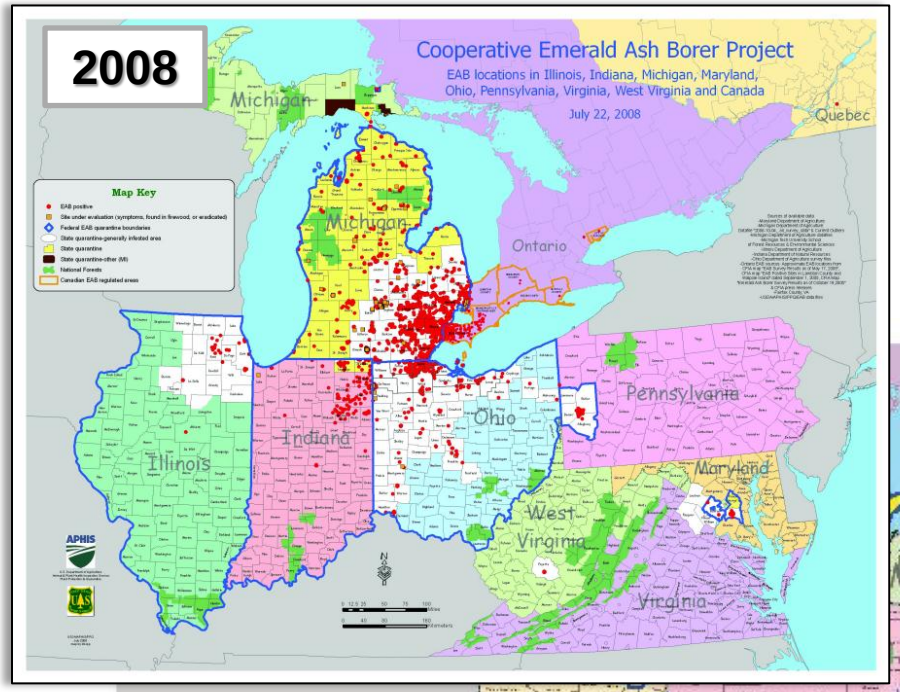


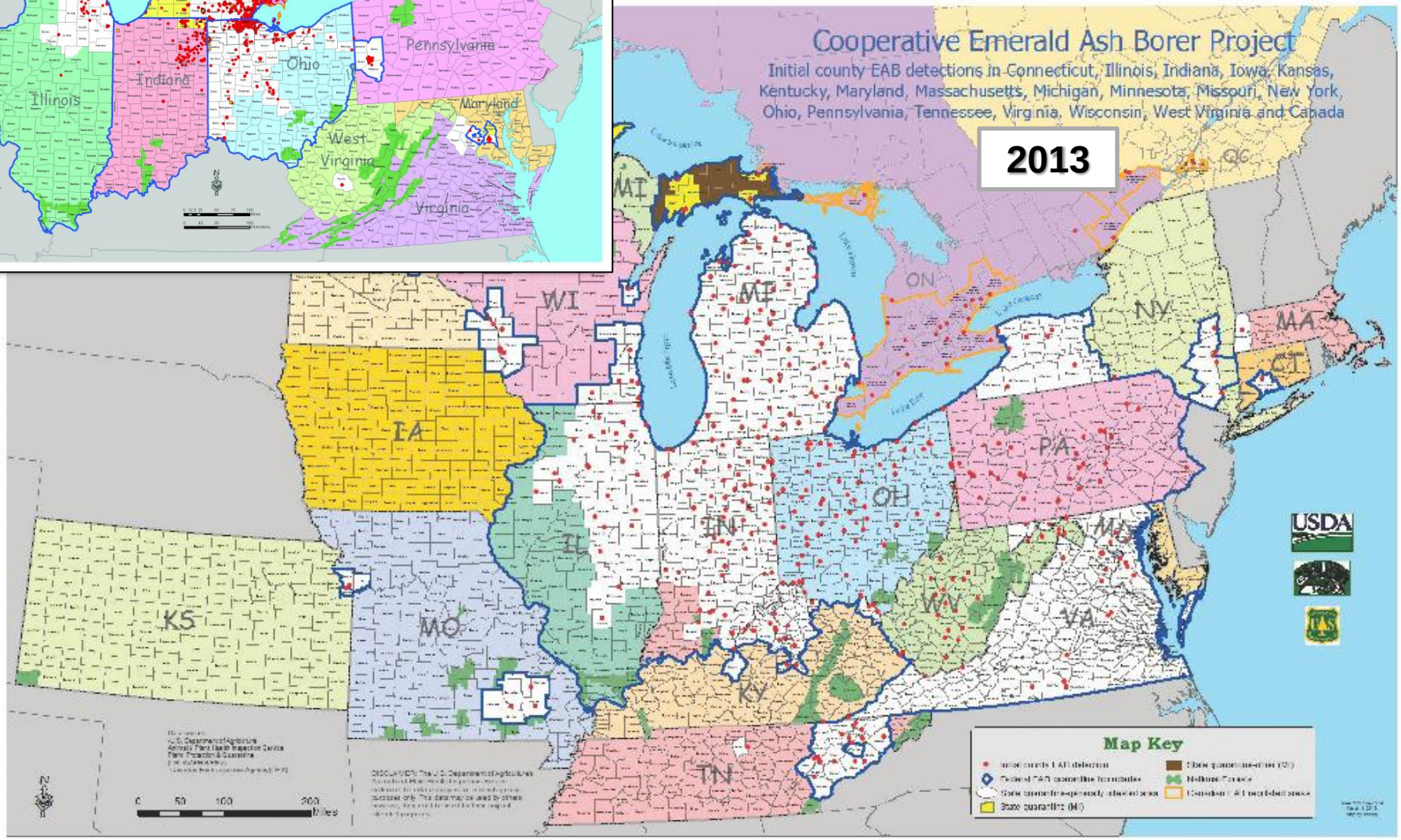
2008 – 12 Management Program

- In winter 2011-2012, indications of Village-wide infestation were identified.
  - In 2012, all public ash trees were treated.
  - The village commenced an effort to prepare a refined management plan which acknowledged expanded infestation.
- The Village was awarded a $20K technical assistance grant.
  - Stem-by-stem inventory of all public trees
  - GPS coordinates and GIS interface
  - Species/genus/diameter/condition categorization
  - Preparation of EAB management recommendations



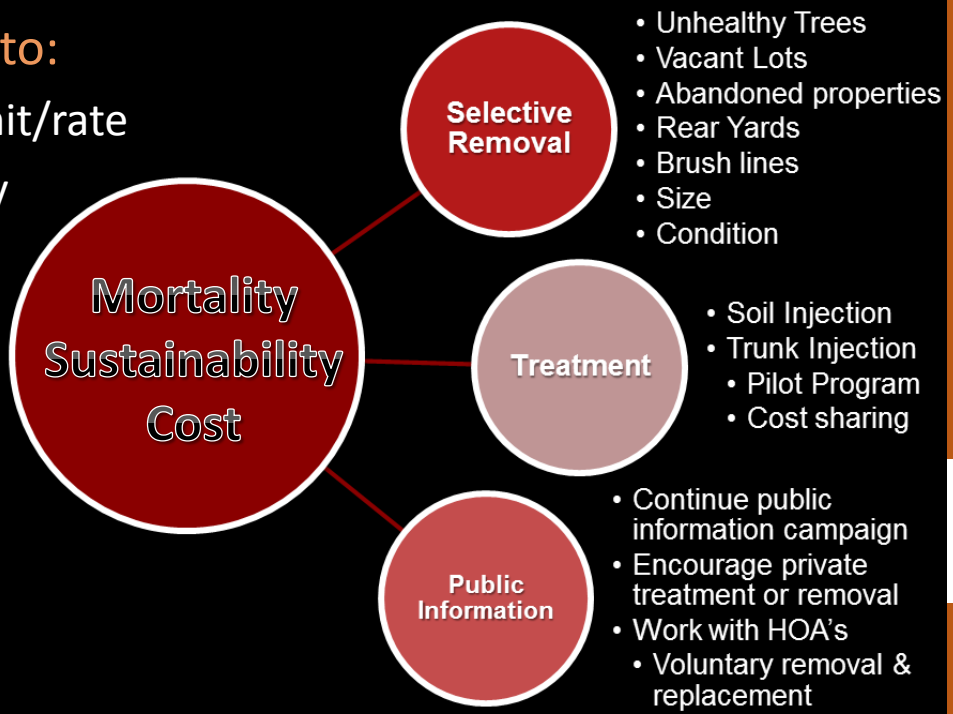
EAB In America 2008-2013





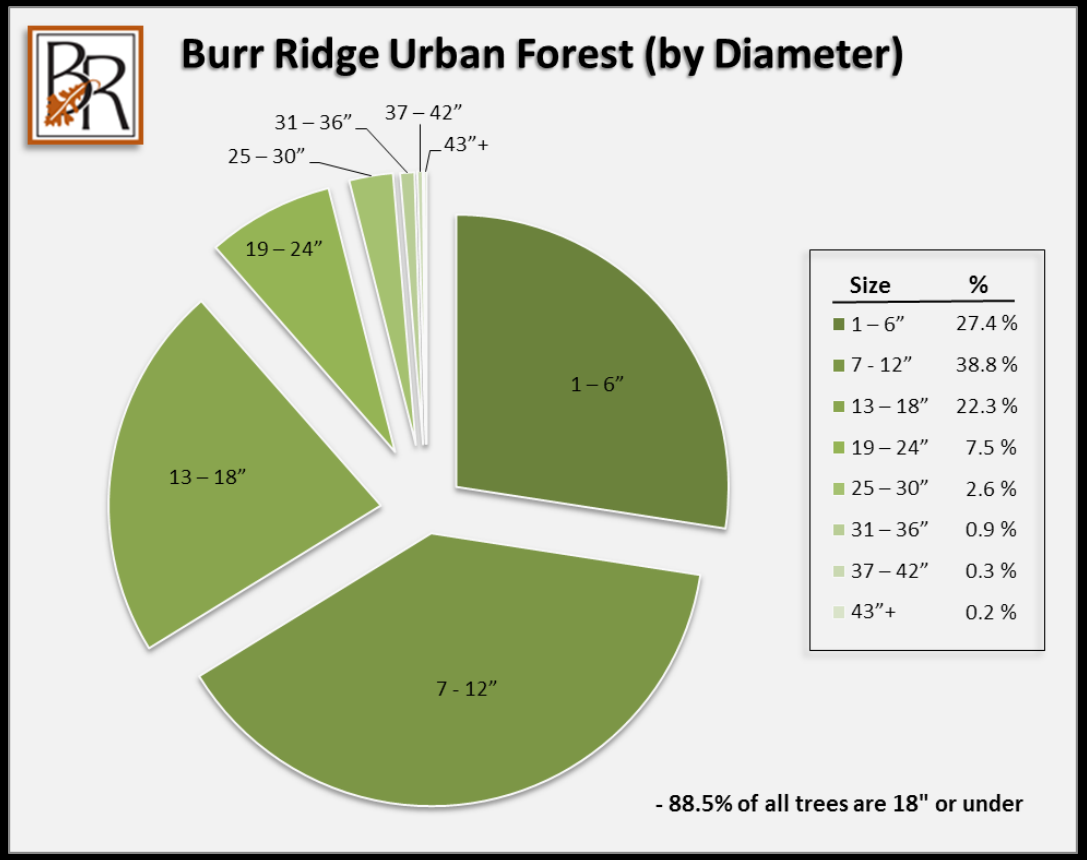
2008 – 12 Management Program

- The success of the 2008-12 EAB program now provides the Village with the opportunity to make decisions that would otherwise not be possible.
- The quality and content of the data from the inventory provide the Village with data resources which can be used to make sound, sustainable long-term decisions.
- The objective of this process is to:
  - Control mortality to defined limit/rate
  - Restrain costs and cost volatility
  - Improve forest diversity



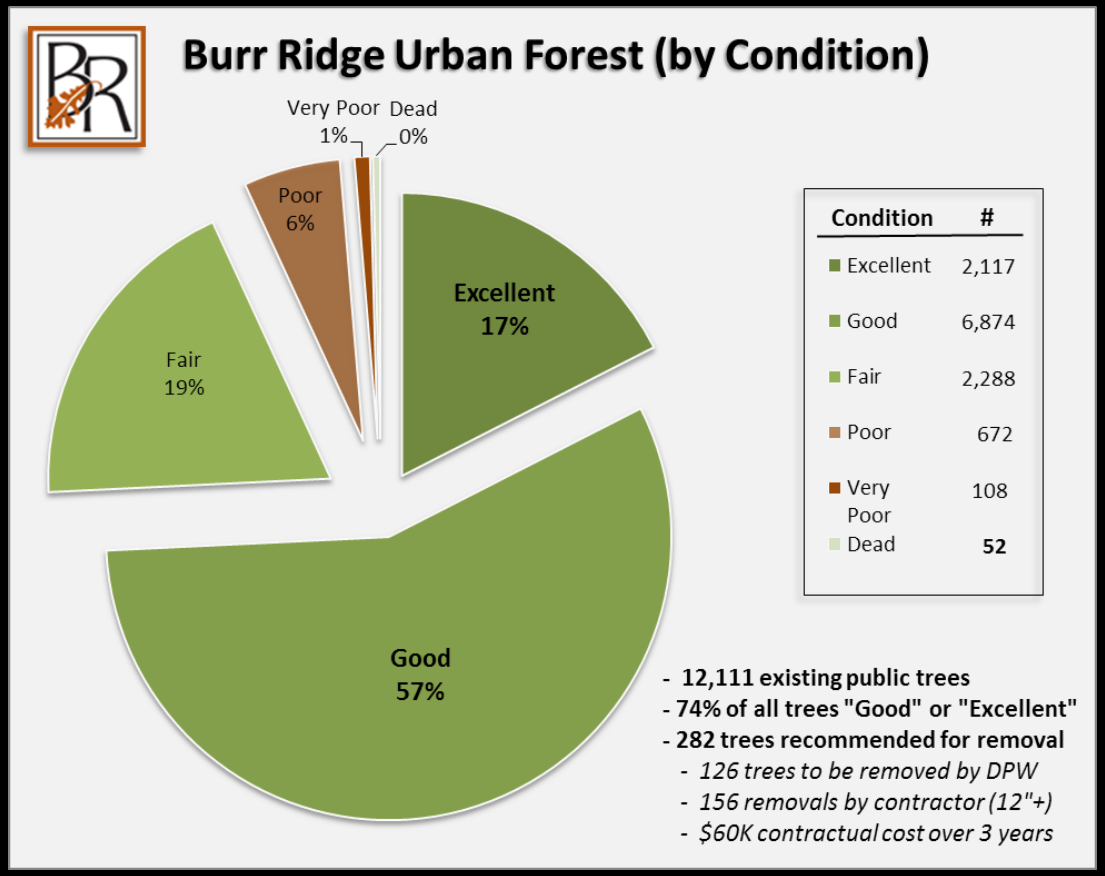
Inventory Findings

- The Burr Ridge urban forest is relatively young.
  - 12,111 existing trees
  - 88.5% under 12” dia.
  - Only 4% greater than 24” in diameter
  - Most of the urban forest was planted as a function of development
  - The DPW plants 50-100 trees per year



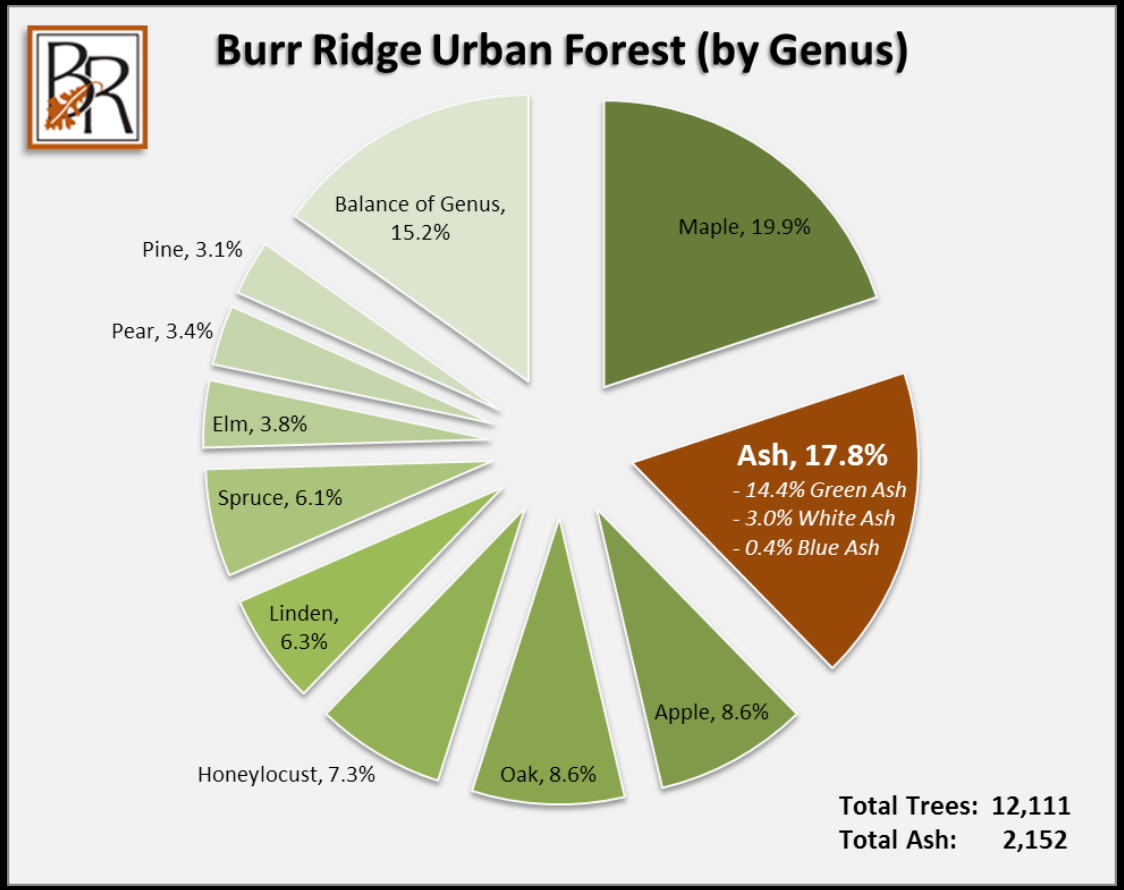
Inventory Findings

- The Burr Ridge urban forest is in very good condition.
  - 12,111 existing trees
  - 74% in “Good” or “Excellent” condition
  - 282 trees recommended for removal
    - 126 to be removed by DPW
    - 156 to be removed contractually
    - Estimated $60K cost over three years



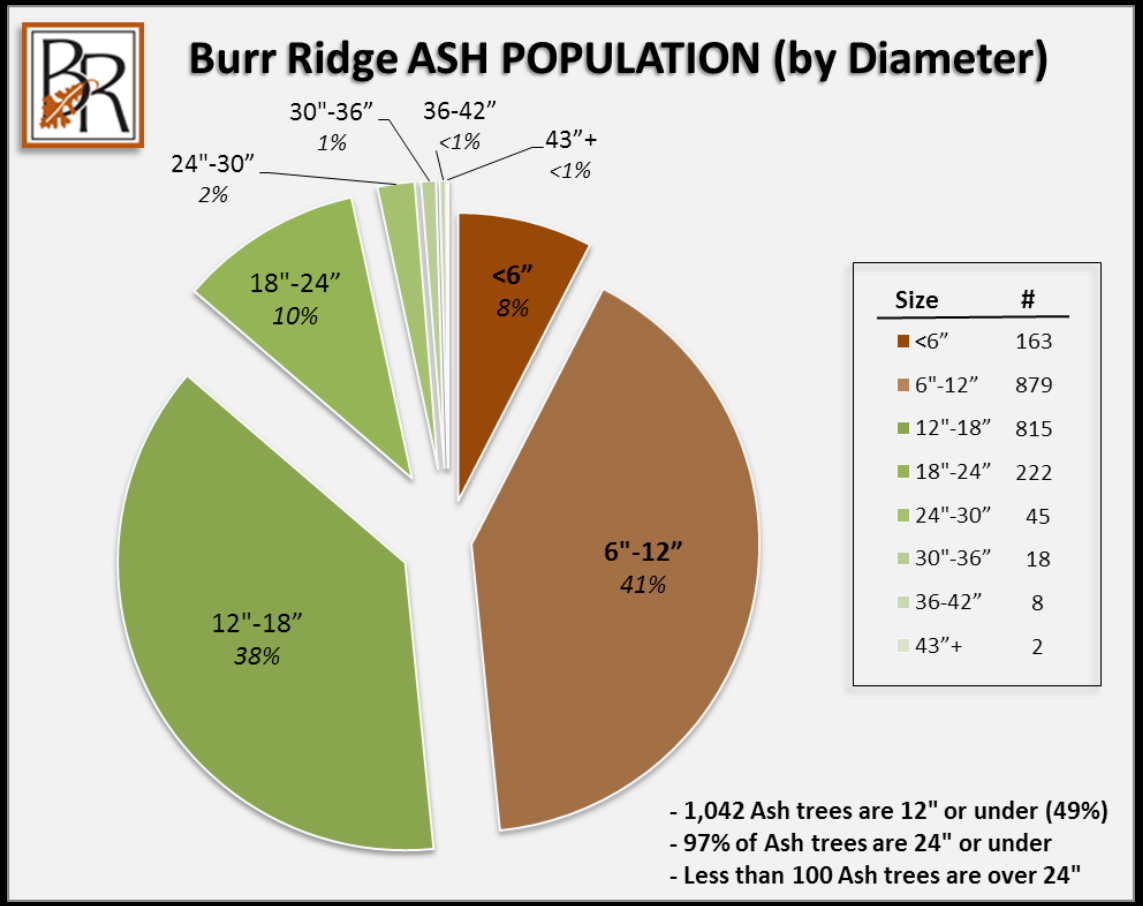
Inventory Findings

- Improved diversity is needed
  - 12,111 existing trees
  - 2,152 Ash (17.8%)
    - 14.4% Green Ash
    - 3.0% White Ash
    - 0.4% Blue Ash
  - 2,413 Maple (19.9%)
  - Species greater than 5% are considered over-represented



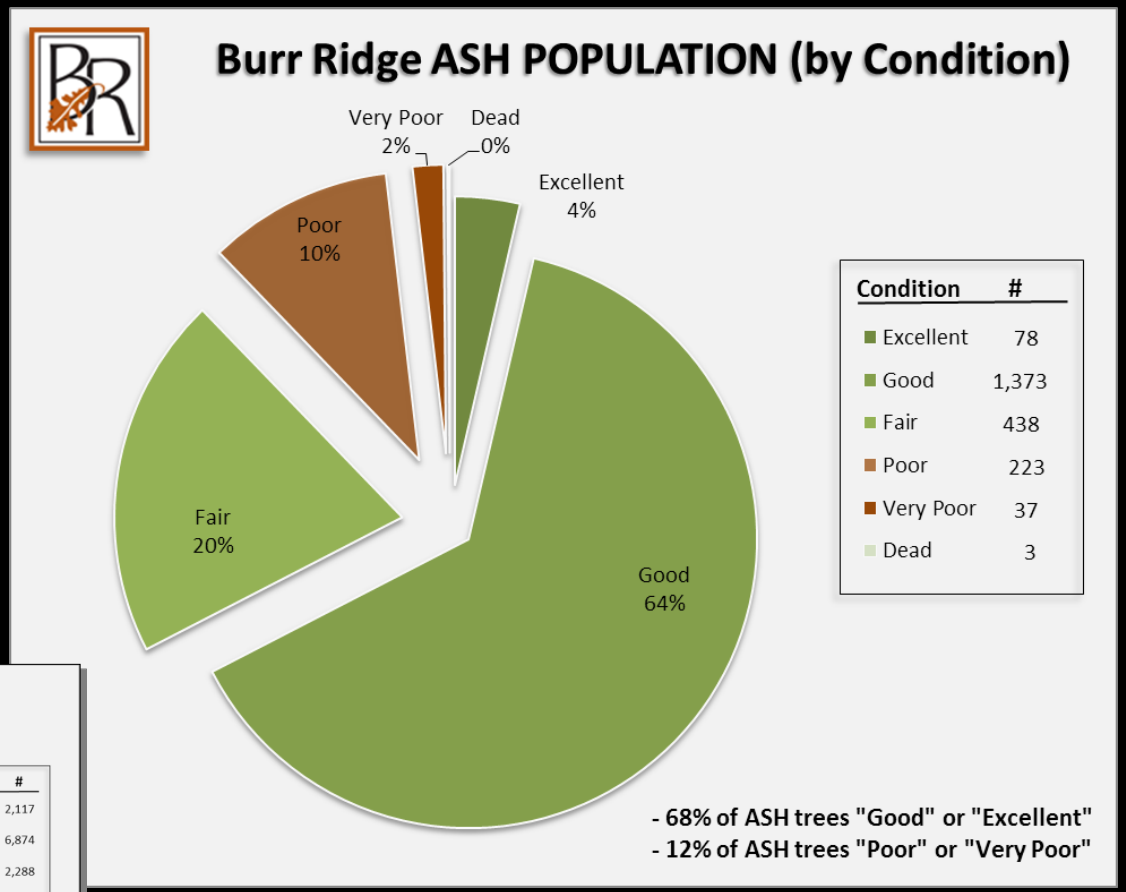
Inventory Findings - ASH

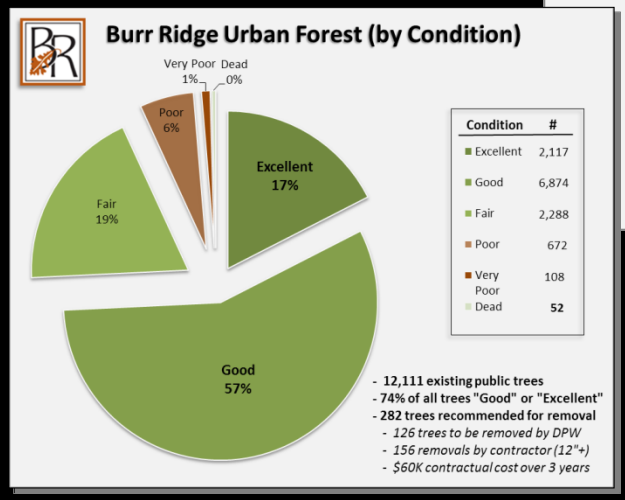
- The Ash forest is slightly more mature than the rest of the urban forest, but still relatively young
  - 2,152 Ash
  - 8% under 6”
  - 49% under 12”
  - 97% under 24”
  - Less than 100 Ash exceed 24” in dia.
  - *Consideration:* Replanting program for smaller trees may be appropriate.



Inventory Findings - ASH

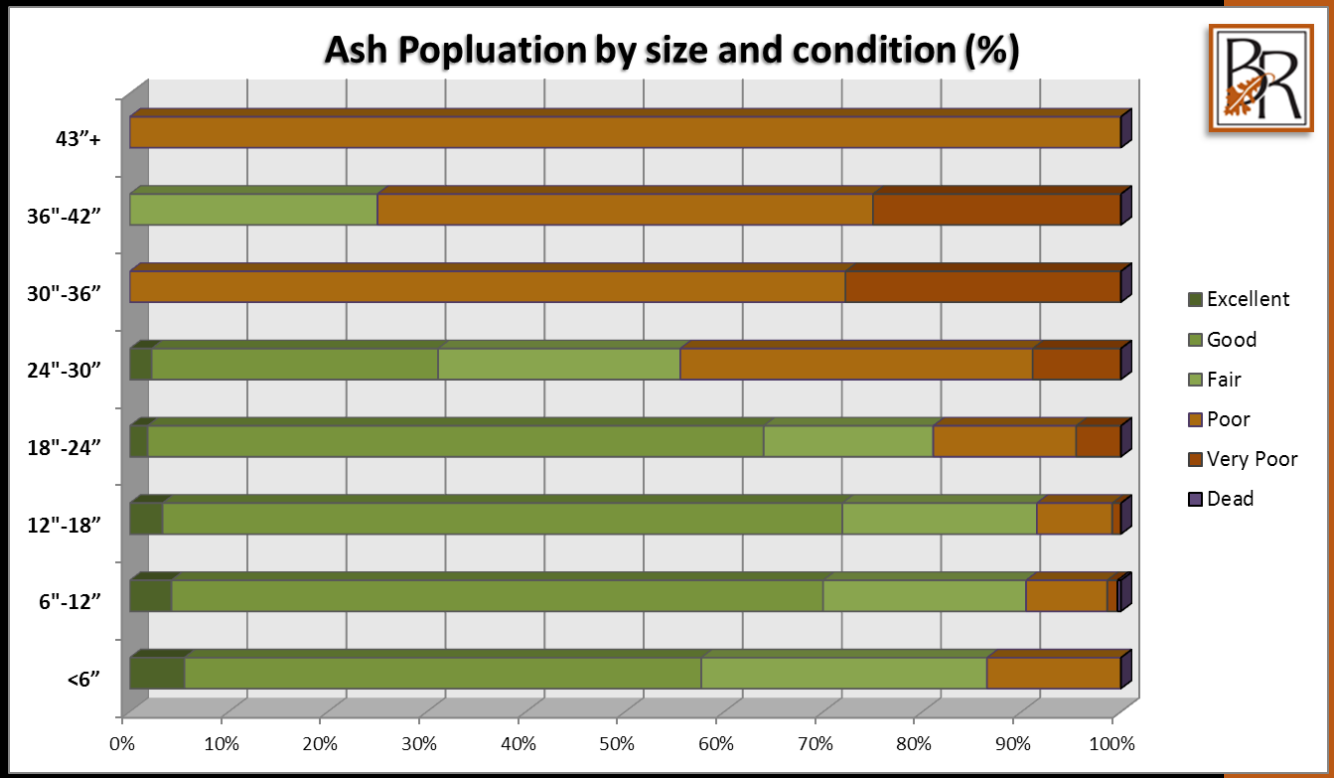
- The Ash forest remains in fairly good condition
  - 68% of ash “Good” or “Excellent”
  - 12% of ash “Poor” or “Very Poor”
  - The treatment protocol has been effective to date.





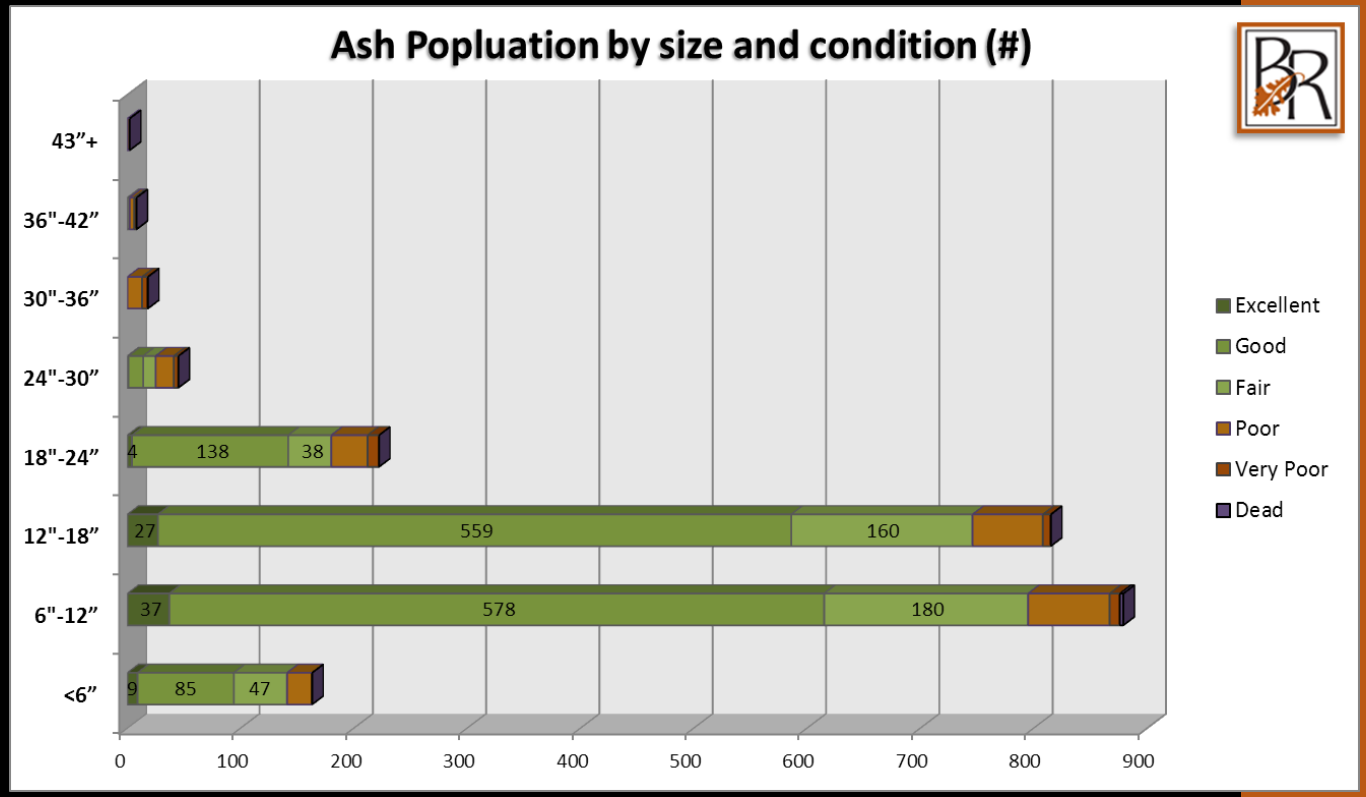
Inventory Findings - ASH

- Larger trees are in poorer condition than smaller trees
  - Efficacy of treatment
  - Age
  - Location
- There are no "Excellent" ash greater than 30"
- *Consideration*: It may not be appropriate to continue treating large trees in poor condition



Inventory Findings - ASH

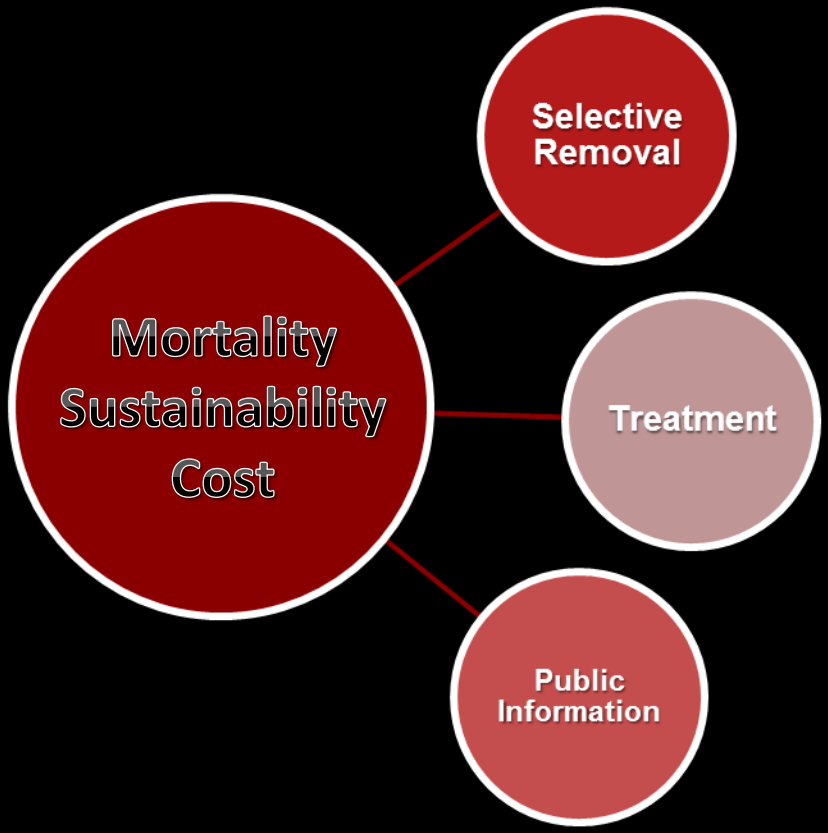
- The largest volume of ash are between 6” – 18”
  - 87% under 18”
  - 49% under 12”
- 56% of all ash are 6” – 18” and classified as “Good” or better
- *Consideration*: which trees should be prioritized for removal, which should be prioritized for treatment?



Management Considerations

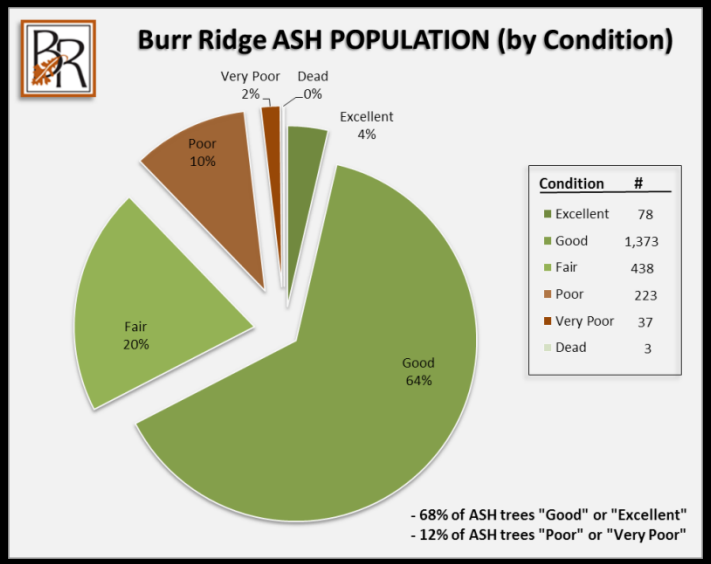
- Selective Removal:
  - Which trees are most appropriate to remove?
  - Which removals can be performed by DPW staff?
  - What will the replanting protocol be?
- Treatment:
  - Which trees are most appropriate to treat?
  - Which treatment methodology is most effective?
- Public Information:
  - What areas/HOA's have the greatest exposure to EAB?
  - How can the Village most effectively communicate/partner with them?

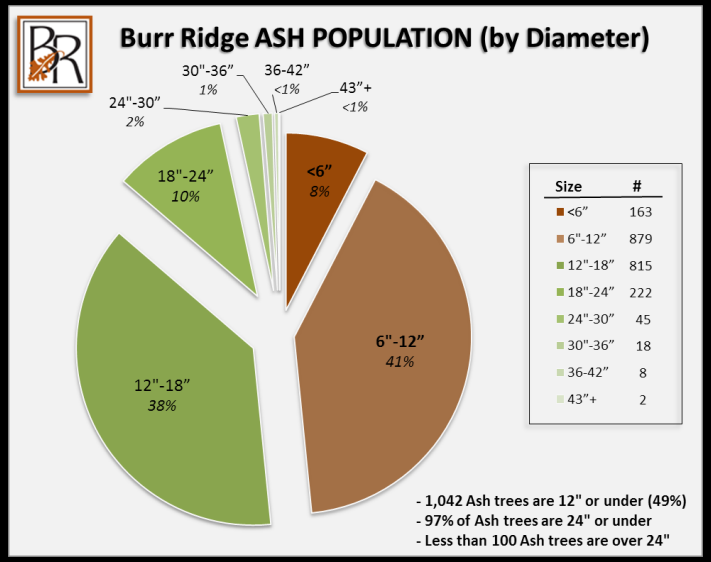
- *Objective*: Restrain costs, improve diversity, control mortality.



Selective Removal

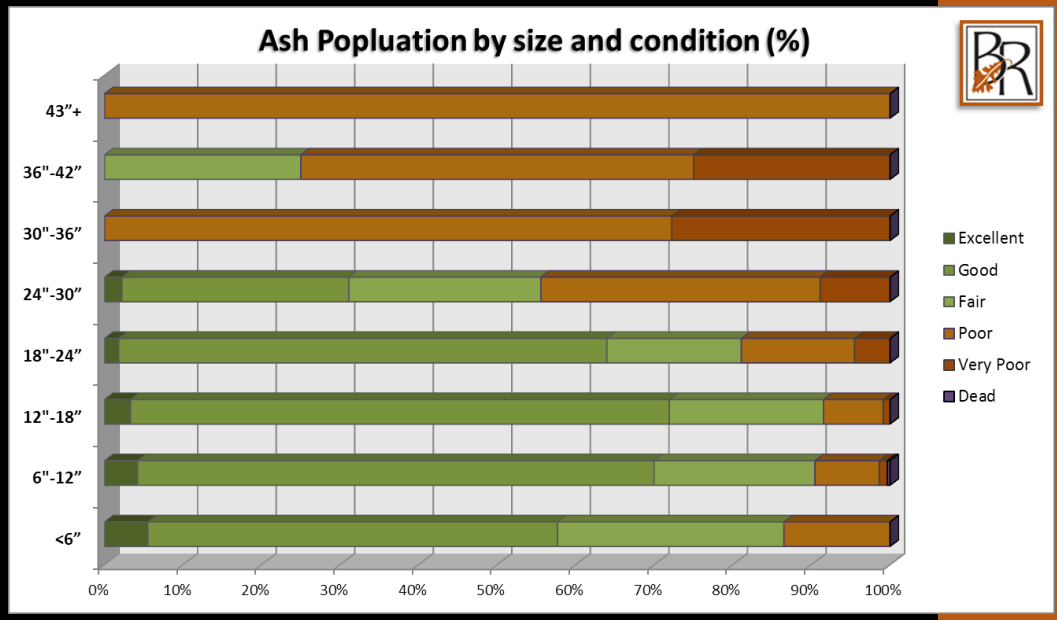
- Which trees are most appropriate to remove?
  - Trees of smaller size which can be effectively replaced
  - Poor condition
  - Undeveloped lots
  - Commercial Properties
  - Brush Lines / rear yards
  - Overhead obstructions
  - HOA/resident coordination
- Which trees can be removed by DPW staff?
  - Trees up to 8-10” DBH
  - Approximately 80 trees per year
- What will the replanting protocol be?
  - 40’ spacing pursuant to Village Code
  - Estimated 66% replacement rate
  - Contractual services may need to be utilized for planting in excess of 50 trees/year.





Treatment

- Which Trees are most appropriate to treat?
  - Can/should the Village continue to treat all trees?
  - Should treatment be prioritized?
    - Condition
    - Size
    - Location
- Which treatment methodology is most effective?
  - Imidicloprid (soil injection)
  - TreeAge (trunk injection)
  - Xytect (trunk injection)
  - Frequency
  - Cost
  - HOA/resident involvement



Public Information

- What HOA's have the greatest exposure to EAB?
  - Highland Fields (130 trees)
  - Heatherfields (110 trees)
  - Devon Ridge (99 trees)
  - Enclave (76 trees)
  - Fieldstone (72 trees)
  - Madison Club (47 trees)
  - Chestnut Hills (45 trees)
  - Todor Court (33 trees)
- How can the Village most effectively communicate with them?
  - HOA association meetings/mailings
  - Selective removal / diversification
  - Treatment cooperation
    - HOA/resident participation to expand treatment
    - HOA/resident contribution to select treatment protocol (soil drench vs. trunk injection)

Not Burr Ridge, for illustrative purposes only

Management Scenarios

- Staff has utilized the inventory report data to develop three primary scenarios for comparison and consideration:
  - **Removal Scenario**
  - **Treatment Scenario**
  - **Managed Decline Scenario**

- Each scenario contemplates the following:
  - Impact to urban forest (diversity)
  - Impact to aesthetics
  - Initial cost
  - Ten-year cost
  - Management control / uncertainty

Removal Scenario

- Which trees are most appropriate to remove?
  - Trees of smaller size which can be effectively replaced
  - Poor condition
  - Vacant lots
  - Commercial Properties
  - Brush Lines / rear yards
  - Overhead obstructions
  - HOA/resident coordination
- Which trees can be removed by DPW staff?
  - Trees up to 8-10” DBH
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- What will the replanting protocol be?
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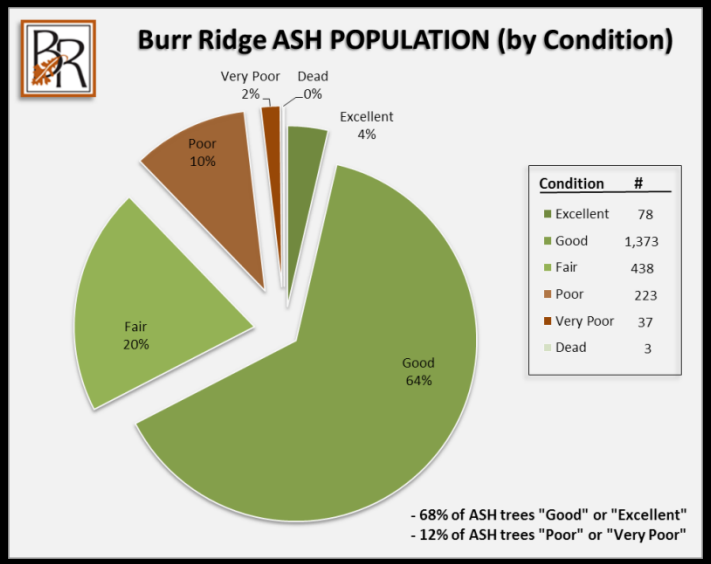
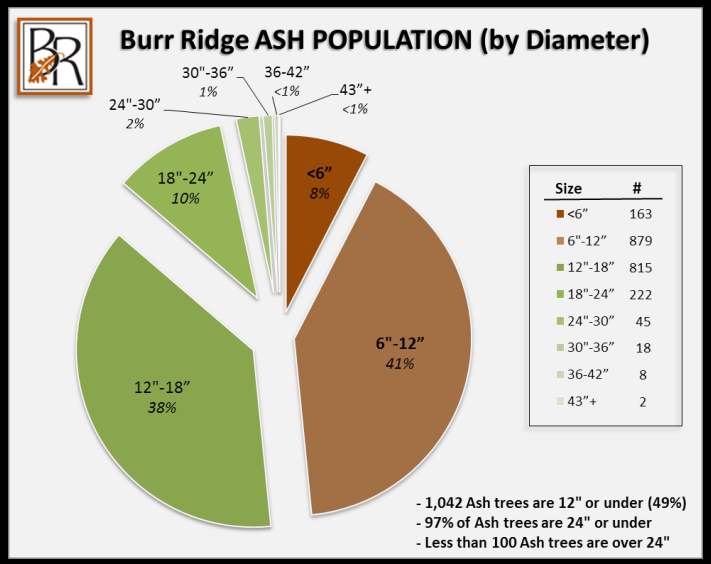
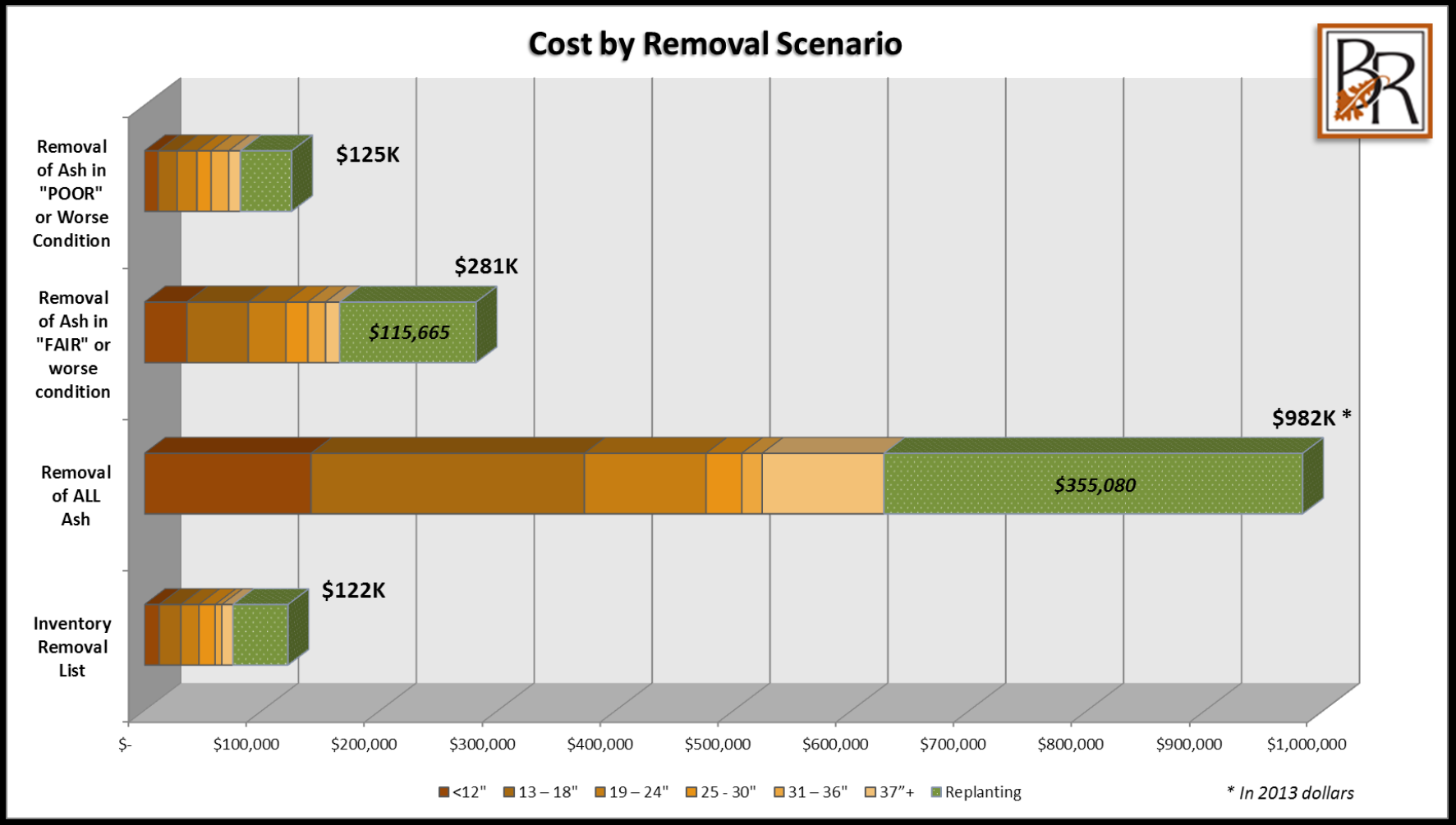


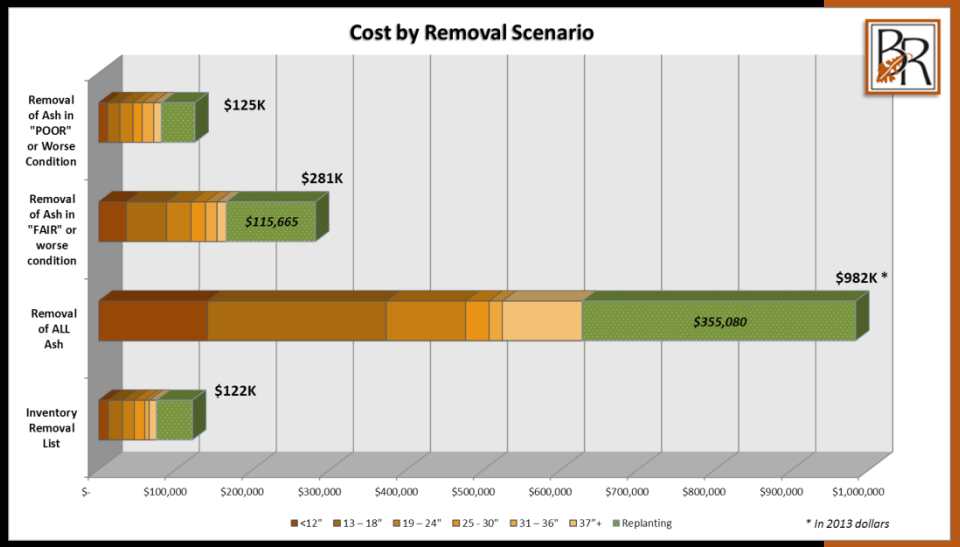


Removal Scenario



Removal Scenario

- Impact to Urban Forest (diversity)
  - Removal of nearly 20% of urban forest
  - Will allow the Village to reduce the Ash population to 5% or less species representation.
- Impact to aesthetics
  - Would have an extremely negatively impact on aesthetics in subdivisions with large ash populations.
- Initial Cost ($982K)
  - Substantial initial removal cost ($627K)
  - Substantial replanting cost ($355K)
  - May be possible to spread removal/replacement over several years
  - Selective removal would have markedly lower cost
- Management Control / Uncertainty
  - Good management control over program if expedited.
  - Poor management control over program if extended over several years (mortality uncertainty).



Treatment Scenario

- Which Trees are most appropriate to treat?
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  - Should treatment be prioritized?
    - Condition
    - Size
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- Which treatment methodology is most effective?
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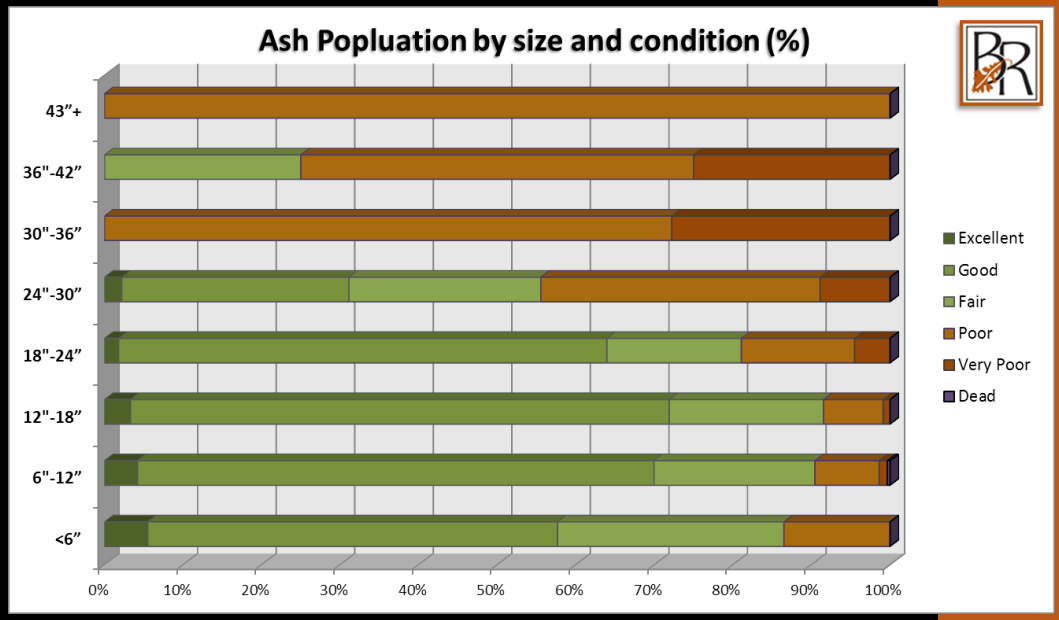
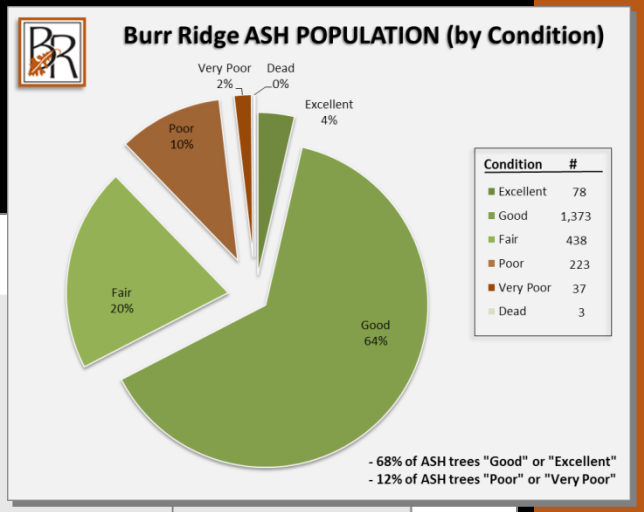
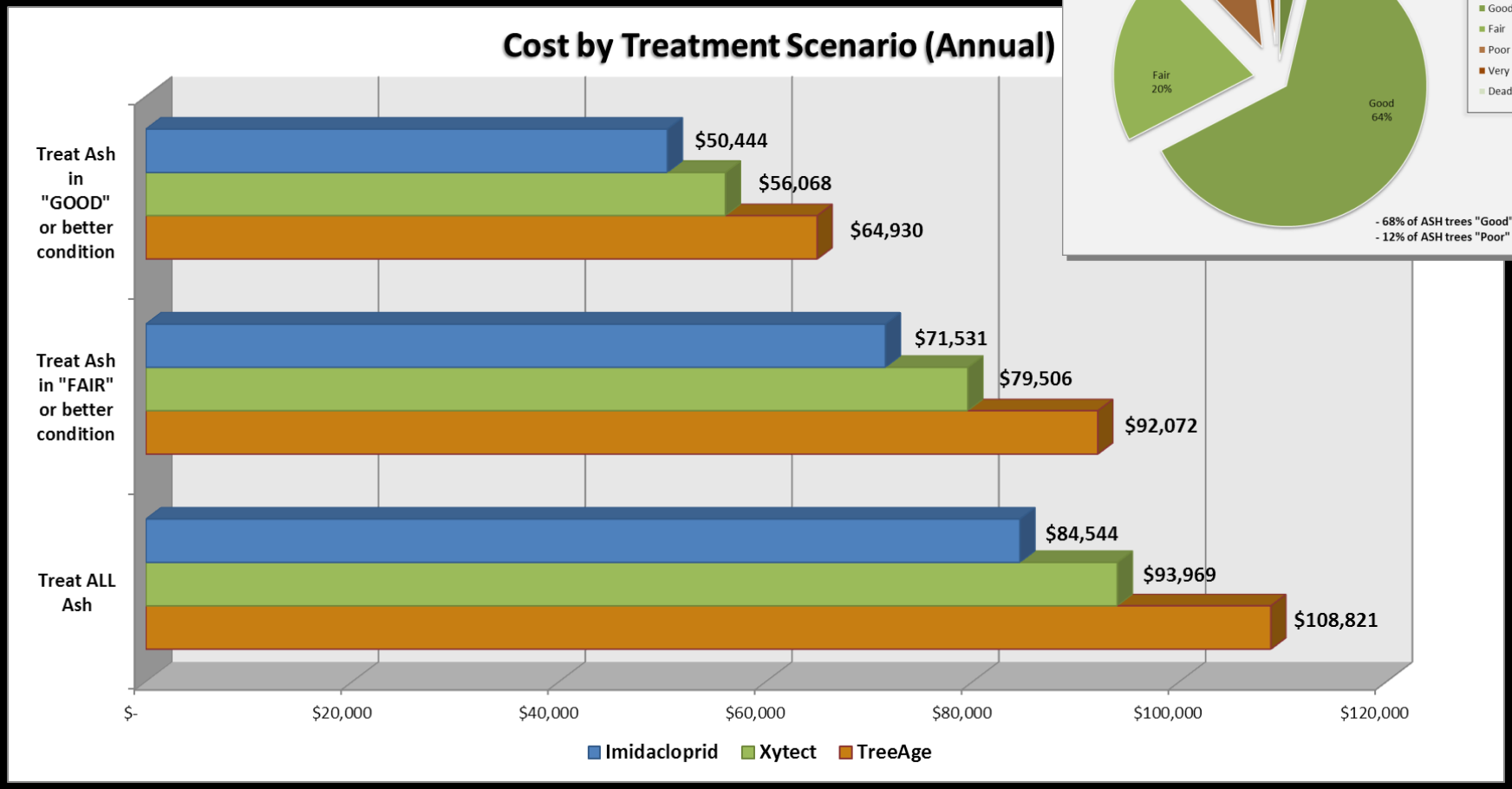
  - Xytect (trunk injection)
  - Frequency
  - Cost
  - HOA/resident involvement



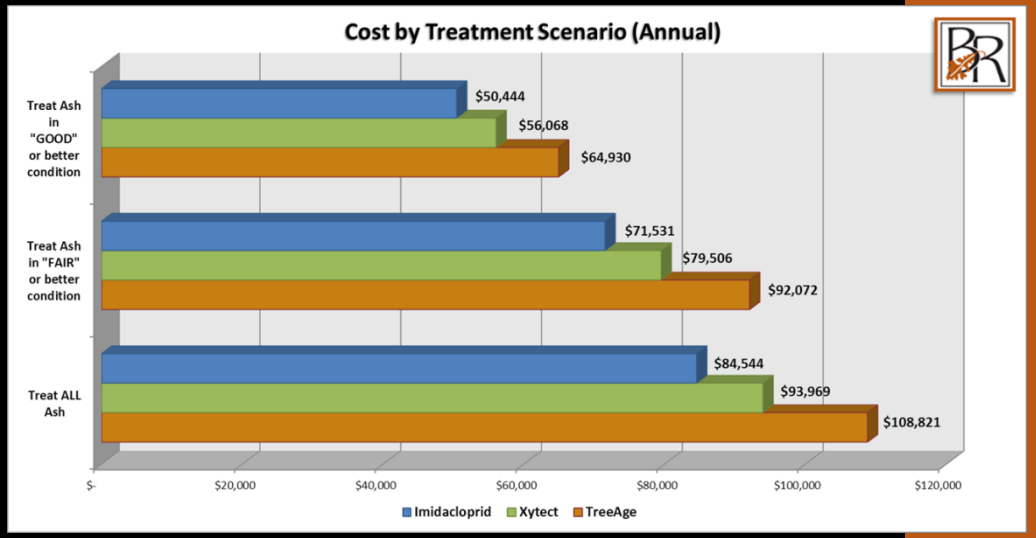
Treatment Scenario





Treatment Scenario

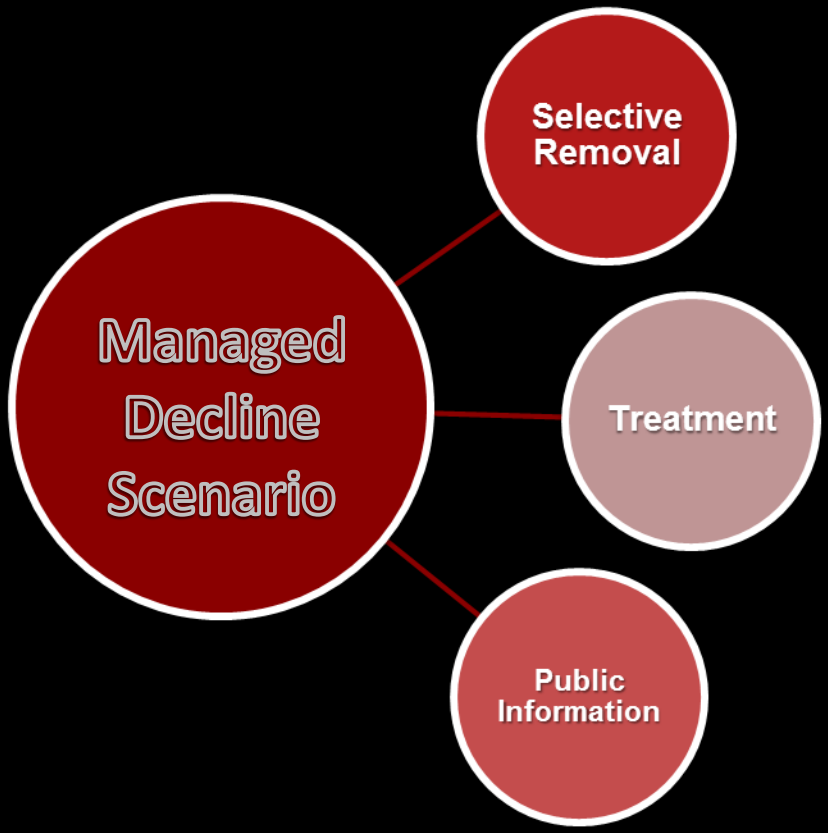
- Impact to Urban Forest (diversity)
  - Urban forest likely to remain in existing or similar condition – Ash would remain over represented.
  - Decrease opportunity to improve diversity of urban forest.
- Impact to aesthetics
  - Most likely to preserve the existing character of neighborhood



- Initial Cost ($50K - $108K)
  - Variable depending upon number treated
  - Variable depending upon treatment protocol (imidicloprid/Xytect/TreeAge)
  - Treatment must continue for extended period to preserve ash population.
  - If treatment ceases, a large removal and replacement cost will be expected.
- Management Control / Uncertainty
  - Uncertainty regarding long-term efficacy of treatment – future costs unknown
  - Likely that mortality will still occur, will need to be addressed with removal and replacement

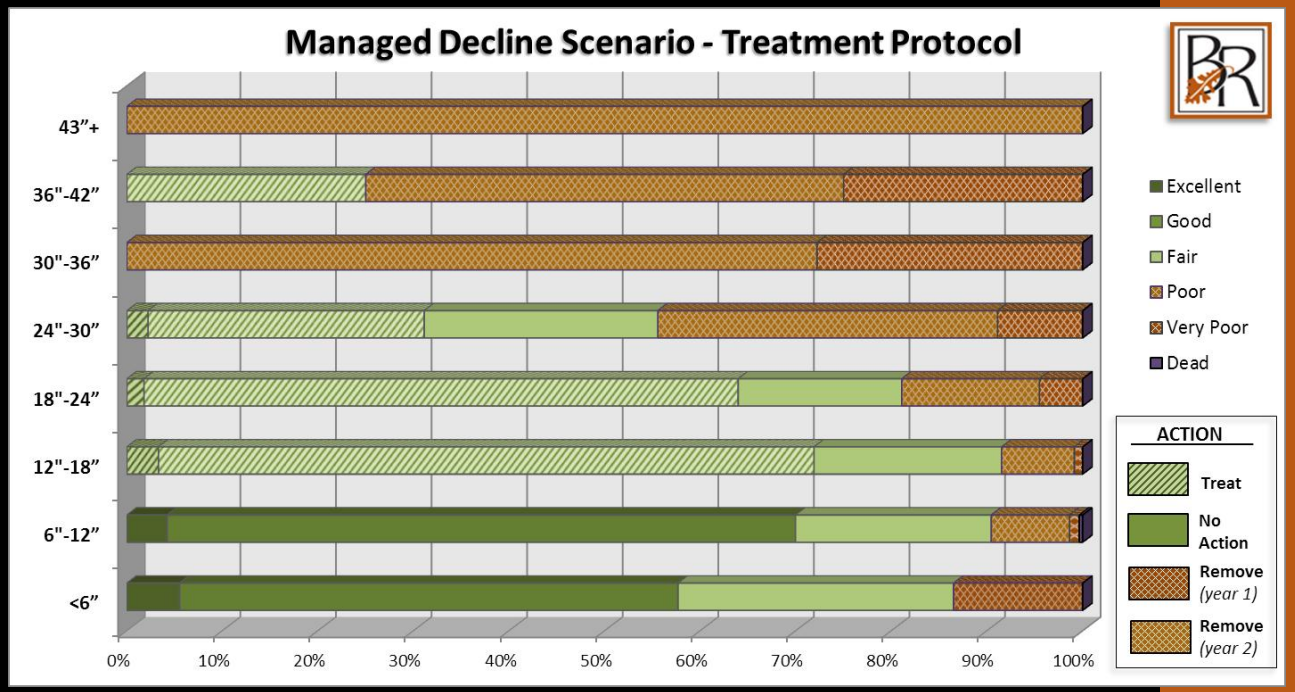
Managed Decline Scenario

- Objective:
  - Combine the most effective components of the removal and treatment scenarios
  - Constrain long-term costs
  - Reduce potential for cost volatility
  - Maximize potential for flexible, nimble management
  - Create the greatest opportunity to retain neighborhood aesthetics
  - Include a robust public information campaign; engage residents and HOA's
  - Progress towards a more diverse urban forest



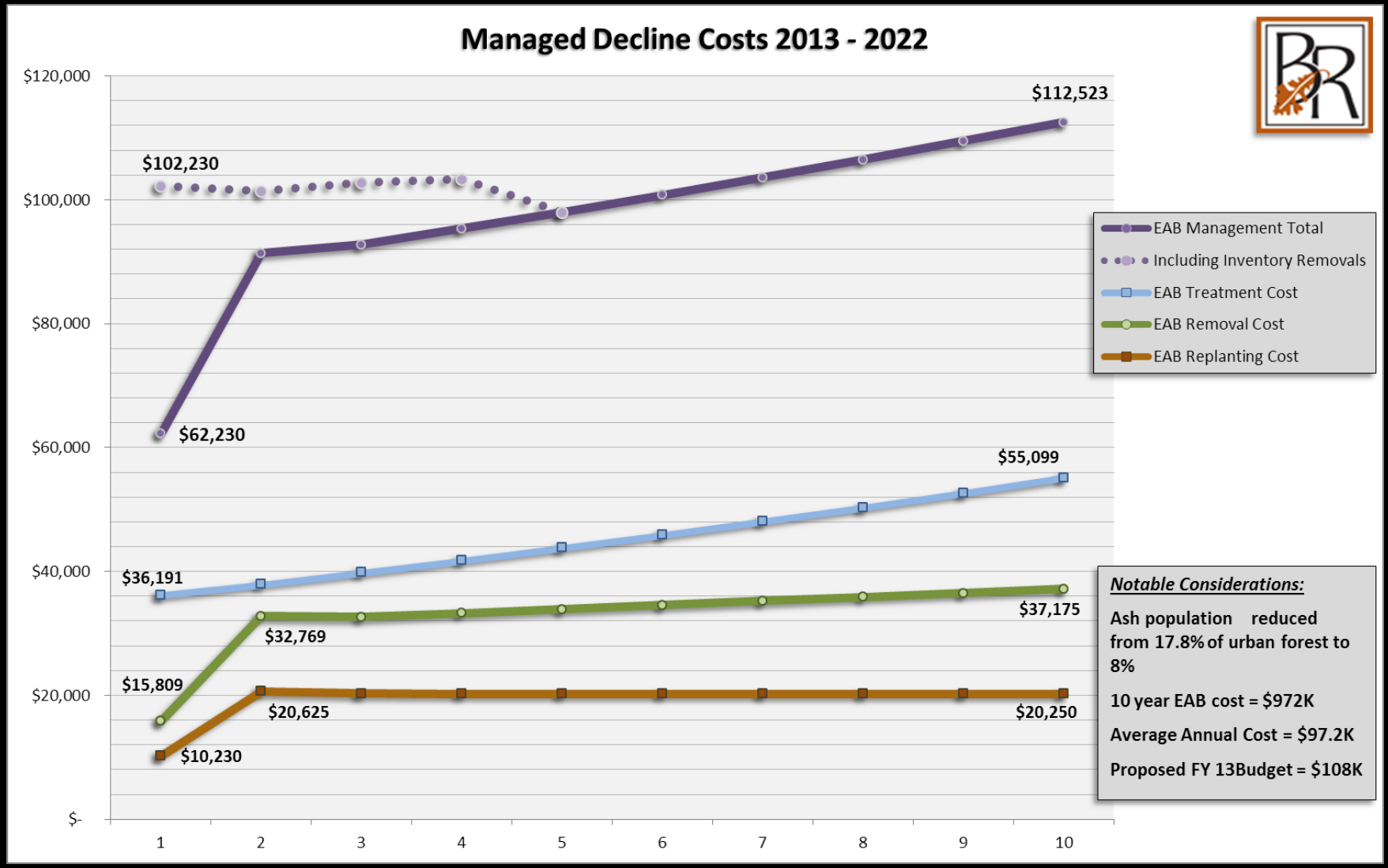
Managed Decline Scenario

- Treatment:
  - Treat ash trees greater than 12” in diameter; and
  - in “Good” or better condition
- Removal:
  - Remove trees in “Poor” or worse condition
  - 2-3 year removal cycle
  - Selective removal of ash with dia. less than 8” by DPW forces *(vacant lots, commercial properties, etc.)*
- No Action:
  - No action taken on remainder of trees (trees in “Fair” condition, trees below 12’ dbh).
  - Removal & replacement when mortality occurs and conditions warrant.

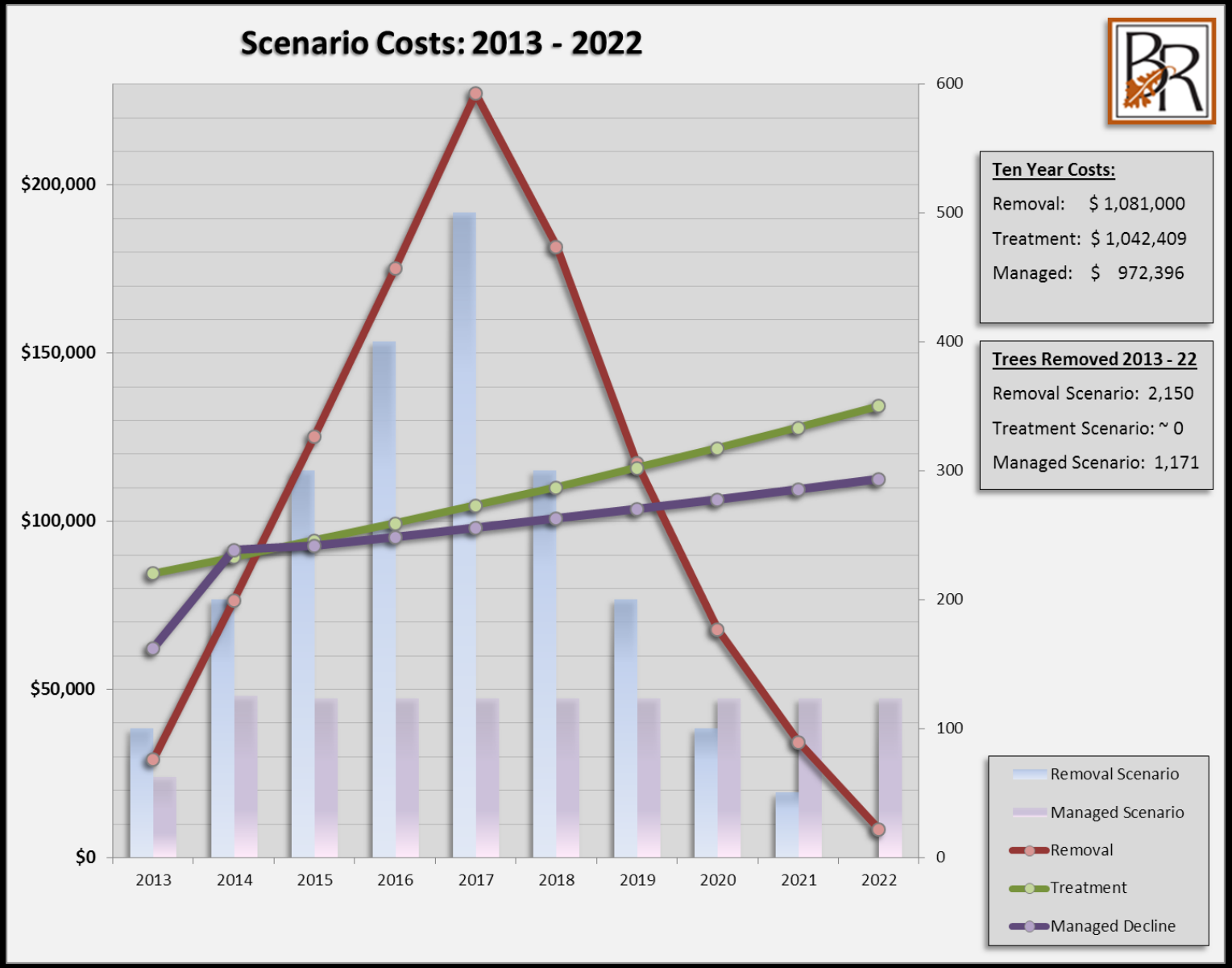


Note: it is assumed that DPW would replant 50 trees annually, the remainder would be planted contractually. Replacement rate estimated at 66%.

Managed Decline Scenario

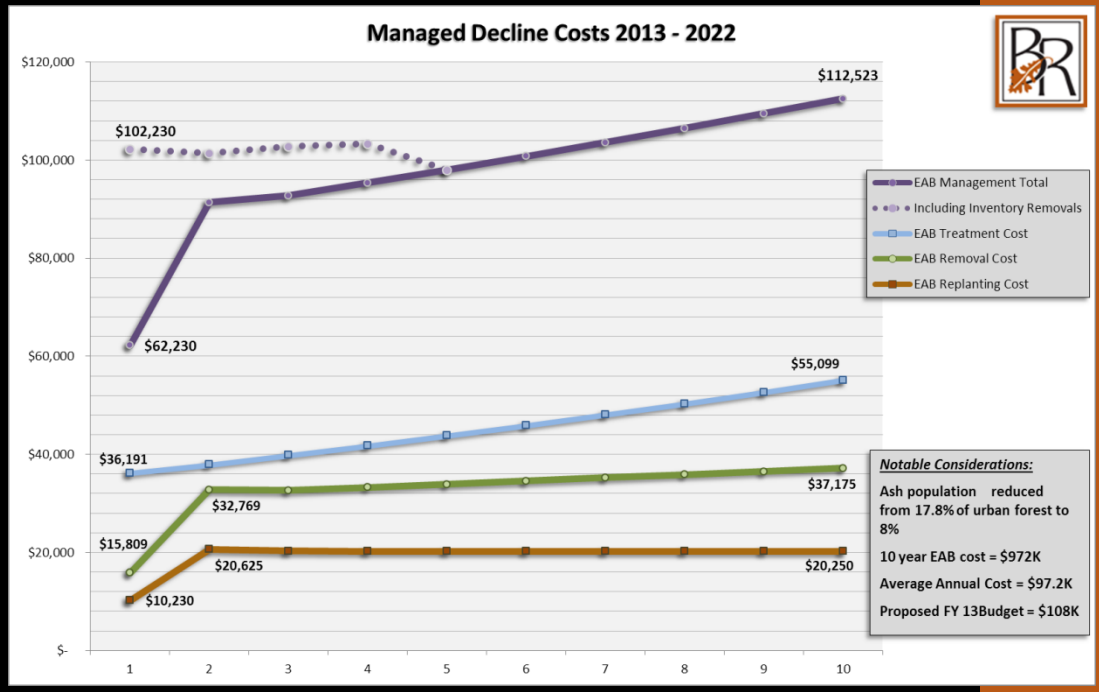


10 Year Cost Comparison



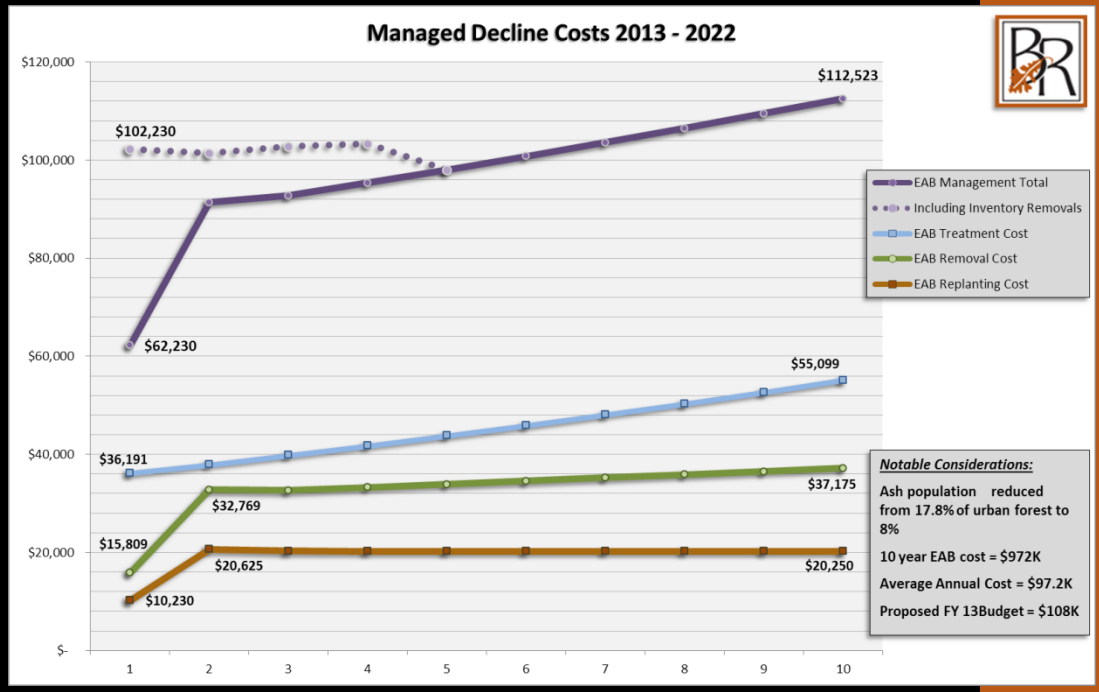
Conclusions

- An appropriately managed decline may be in the best interest of the Village
  - Decreased cost volatility
  - Preservation of high-value ash
  - Reduction in lower-value ash, movement toward more suitable species representation
  - Improved forest diversity through selective removal & replacement
  - Most effective use of DPW resources to assist with removals & replacements.



Conclusions

- Keys to Success:
  - Management flexibility to address changing conditions (mortality, replanting).
  - Robust public information campaign
  - Coordination/engagement of interested residents and HOA's
    - Staff ability to coordinate activities directly with stakeholders
    - Ability to coordinate removals in manner that contemplates aesthetics.
    - Resident / HOA ability to treat public ash that do not meet the Village protocol.



Next Steps

- Discussion and Consideration of scenarios & impacts
- Follow-up presentation at the March 25 Village Board meeting
  - Further consideration/discussion of scenarios
  - Consideration of public comment
  - Board direction regarding preferred approach
- Staff to commence with long-term management plan
- Ordinance revisions as necessary
  - May no longer be necessary to compel a resident to remove an infested ash tree based upon crown die-back
  - May be necessary to provide updated ordinance language to allow residents/HOA's to perform approved treatment on Village trees.

QUESTIONS / DISCUSSION